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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/509,426

04/18/2005

Tsuyoshi Yuki

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EXAMINER

GOLOBOY, JAMES C

ART UNIT

PAPER NUMBER

1797

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/509,426	Applicant(s) YUKI ET AL.	
	Examiner James Goloboy	Art Unit 1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 April 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 3-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>12/28/04, 1/25/05, 9/24/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1 and 4-9 are rejected under 35 U.S.C. 102(b) as being anticipated by Suzuki (JP 11-268187).

An English machine translation of Suzuki, which is attached, has been relied upon in setting forth this rejection.

Suzuki, in paragraph 6, discloses an acrylic ester copolymer where part of polymethylmethacrylate is replaced by an aminoalkyl(meth)acrylate. Methyl methacrylate meets the limitations of monomer (b) of claim 1, where R³ is a methyl group, n is 0, and R⁴ is a methyl group. In paragraph 17, Suzuki discloses that the aminoalkyl(meth)acrylate can be various monomers meeting the limitations of monomer (a) of claims 1 and 4, where R¹ is either methyl or hydrogen, m is 1, A¹ is an alkylene group with either 2 or 3 carbon atoms, and X is -NH₂. While Suzuki does not disclose the copolymer as a friction modifier, case law holds that a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it

meets the claim. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963). As the copolymer of Suzuki meets the structural limitations of the claimed copolymer, it is clearly capable of performing the intended use. The copolymers of Suzuki are obtainable by the methods recited in claims 5-6.

In paragraph 18, Suzuki discloses that the copolymer contains 0.01 to 30% by weight of the aminoalkyl(meth)acrylate, within the range recited in claim 7. In paragraph 20 Suzuki discloses that the copolymer can further contain butyl acrylate, and in example 2 (paragraph 28), discloses a copolymer where the butyl acrylate and methyl methacrylate are present in amount meeting the limitations of claims 8-9, where the butyl acrylate is monomer (b1) and the methyl methacrylate is a monomer (b2).

In light of the above, claims 1 and 4-9 are anticipated by Suzuki.

3. Claims 1, 3, and 7-9 are rejected under 35 U.S.C. 102(b) as being anticipated by DelDonno (U.S. Pat. No. 5,191,029).

From column 6 line 30 through column 7 line 3, DelDonno discloses the composition of a copolymer containing units of methyl methacrylate, butyl acrylate, and phosphoethyl methacrylate. Methyl methacrylate and butyl acrylate meet the limitations of monomer (b) of claim 1 as well as claims 8-9, as discussed in paragraph 2 above. Phosphoethyl methacrylate, as shown in column 3 lines 62-68 (structure I) of DelDonno, meets the limitations of monomer (a) of claims 1 and 3, where R^1 is methyl, Q is $-\text{CO}-$, Z is $-\text{O}-$, A^1 is an alkylene group having 2 carbon atoms, and X is $-(\text{O})_a-\text{P}(=\text{O})_b(\text{OR}^2)_2$, where a is 1, b is 1, and both R^2 groups are H. In column 3 lines 44-48, DelDonno

discloses that the copolymer preferably has a molecular weight of about 500,000 or greater, within the range recited in claim 1. The copolymer of DelDonno comprises 3.8% by weight of the phosphoethyl methacrylate unit, within the range recited in claim 7.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over DelDonno.

The discussion of DelDonno in paragraph 3 above is incorporated here by reference. DelDonno discloses a copolymer meeting the limitations of claim 1, but does not disclose a copolymer with a molecular weight falling within the range recited in claim 10. However, DelDonno does disclose that the copolymer preferably has a molecular weight of about 500,000 or greater, overlapping the range recited in claim 10. See

MPEP 2144.05(I): "In the case where the claimed ranges "overlap or lie inside ranges disclosed by the prior art" a prima facie case of obviousness exists. *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976);"

7. Claims 1, 3, and 7-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Larson (US PG Pub. No. 2002/0058749).

In paragraphs 8-9, Larson discloses a binder composition for aqueous coatings, comprising an emulsion copolymer. In paragraphs 53-55, Larson discloses copolymers containing phosphoethyl methacrylate and methyl methacrylate monomer units, meeting the limitations of the monomer units (a) and (b) of claims 1, 3, and 7 as discussed in paragraphs 2 and 3 above. The copolymers of Larson can further contain ethylhexyl methacrylate, meeting the limitations of claims 8-9 where methyl methacrylate is monomer (b1) and ethylhexyl methacrylate is monomer (b2). In example 1 (paragraphs 49-50 and table 1.1), Larson discloses the addition of the copolymer to water, a diluent as recited in claim 11, and also discloses that other additives are present in the composition, also as recited in claim 11. The water and copolymer are present in an amount within the ranges recited in claim 12. The difference between Larson and the currently presented claims is that Larson does not disclose a copolymer with a molecular weight within the ranges recited in claims 1 and 10.

In paragraph 20, Larson discloses that the polymer has a weight average molecular weight of 1,000 to 5,000,000, overlapping the ranges recited in claims 1 and 10. See MPEP 2144.05(I): "In the case where the claimed ranges "overlap or lie inside

ranges disclosed by the prior art” a prima facie case of obviousness exists. *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976);”

8. Claims 13-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki in view of Katayama (U.S. Pat. No. 4,666,617).

The discussion of Suzuki in paragraph 2 above is incorporated here by reference. Suzuki discloses a copolymer meeting the limitations of claim 1, but does not disclose its use in a lubricating oil composition.

In column 3 lines 34-61, Katayama discloses a cold rolling oil containing an oil-soluble high-molecular compound, and in column 3 lines 55-61 discloses that the compound can be a copolymer of a dialkylaminomethacrylate and an alkyl acrylate or methacrylate, very similar to the copolymers of Suzuki. In the same compositions of columns 5-6 Katayama discloses that the copolymer is present in an amount of 5% by weight, within the range recited in claim 13, and in column 7 lines 44-45 discloses that the base oil can be a synthetic ester, as recited in claim 14. The use of the copolymer of Suzuki as the copolymer in the composition of Katayama meets the limitations of claims 13-14.

It would have been obvious to one of ordinary skill in the art to use the copolymer of Suzuki as the additive in the cold rolling oil of Katayama as Katayama teaches that copolymers with similar structures are useful additives.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James Goloboy whose telephone number is (571)272-2476. The examiner can normally be reached on M-F 9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on 571-272-1444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JCG

/Glenn A Caldarola/
Acting SPE of Art Unit 1797